

**Three undescribed Pediciine crane flies
from the Eastern Himalayas (Tipulidae, Diptera)**

By CHARLES P. ALEXANDER

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This paper is dedicated to my dear friend Doctor Bernhard Mannheims, distinguished student of the Diptera, on the occasion of his sixtieth birthday.

I am highly honored to be invited to contribute a paper in commemoration of the sixtieth birthday of Bernhard Mannheims, my long time friend and fellow student of the Dipterous families Blepharoceridae and Tipulidae.

The three species discussed herewith belong to the tribe Pediciini, smallest in number of species of the four major tribes in the vast subfamily Limoniinae. The Pediciini are chiefly Holarctic in distribution, with a few further representatives in the extreme southern hemisphere, including New Zealand, Australia, and southern South America. There are numerous Palearctic species, with many occurring in the Himalayas and adjoining ranges, chiefly at moderate to higher altitudes. References to several such species will be found in the literature cited at the conclusion of this paper. The species here discussed are from Kameng, Assam, India, where they were collected in 1961 by Dr. Fernand Schmid, to whom I am indebted for unusually valuable materials in this group of flies. Types of the new species are preserved in my personal collection of World Tipulidae.

Nipponomyia mannheimsiana sp. n.

Thorax yellow, the praescutum, scutum and parascutella with conspicuous black markings; legs yellow, extreme tips of femora and tibiae and the proximal three tarsal segments brown; wings patterned as in the genus, cell C without transverse or oblique darkened lines or spots, with about four isolated pale brown longitudinal areas; abdominal segments conspicuously patterned with brown; male hypopygium with the elevated lobe of dististyle bearing three or four blackened spinoid setae, interbase long and slender, narrowed gradually into a spine.

Male. — Length about 11 mm; wing 11.5 mm; antenna about 0.9 mm.

Female. — Length about 13 mm; wing 12 mm.

Rostrum above brownish black, sides yellowed; palpi long, black. Antennae with scape yellow, remainder paler yellowish white; proximal flagellar segments subcylindrical, terminal segment longer and slightly more darkened. Head yellow, faintly tinged with brown.

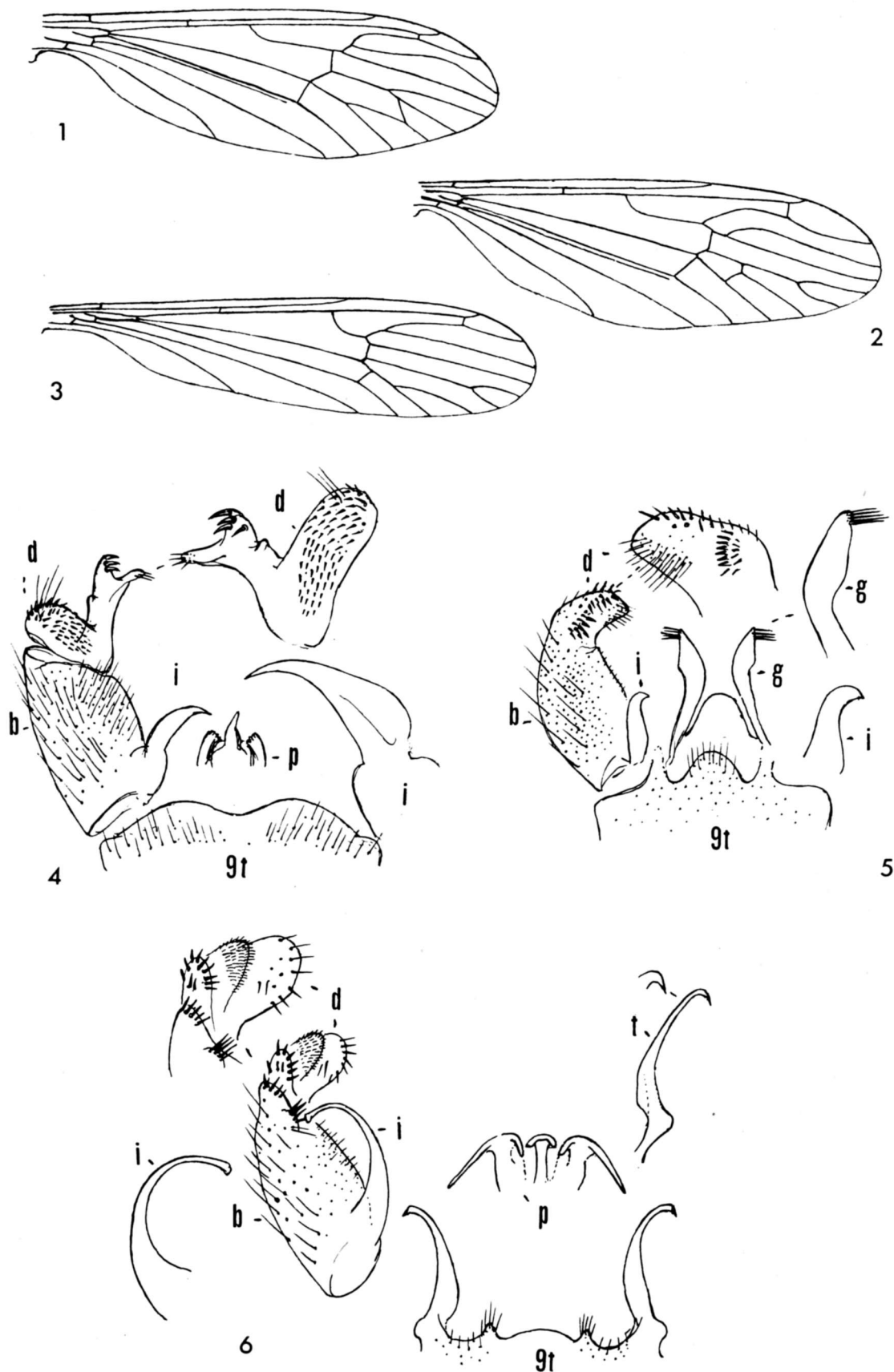
Thorax yellow, mesonotum patterned with black, including an arcuated row of four spots on posterior third of praescutum before suture; each scutal lobe at suture intensely bordered by black, with an extensive pale brown suffusion on posterior half of lobe; parascutella with a conspicuous intensely black line, extending from the scutellum toward the wing root. Halteres pale yellow. Legs with coxae and trochanters yellow; remainder of legs yellow, extreme tips of femora and tibiae, and proximal three tarsal segments brown, outer segments brownish black. Wings (fig. 1) with the pattern usual in the genus, the subcostal yellow band reaching the wing tip, paler beyond the stigma, bordered posteriorly by pale brown; four isolated longitudinal pale brown clouds in cell C, with three comparable ones in basal two-thirds of cell Sc, the last above the origin of *Rs*; wing disk with a pale oblique pattern that includes a line from *Rs* to vein *Cu*, with a comparable marking over the cord, and a further line extending from below the stigma to vein *M*₃ behind, the three lines together forming an N-shaped pattern; a small marginal cloud on vein 2nd *A*; veins light yellow, only slightly darker in the patterned areas, prearcular veins darker. Venation: *r-m* at or shortly before fork of *Rs*, vein *R*₂₊₃₊₄ present; cell 1st *M*₂ long, *m* oblique; *m-cu* at or shortly before fork of *M*.

Abdomen yellow, each intermediate tergite with four brown spots on basal half, posterior area clear yellow, lateral borders of tergites two to six each with a narrow black line; each sternite with a pair of separate brown longitudinal dashes on basal half, eighth segment yellow; in male ninth segment dark brown, styli yellowed. Male hypopygium (fig. 4) with the elevated lobe of dististyle, *d*, tipped with three or four blackened spinoid setae. Interbase, *i*, long and slender, narrowed gradually into a terminal spine.

Holotype, ♂, Bomdi La, Kameng, North East Frontier Agency, 8800 feet, July 15, 1961 (Schmid). Allotopotype, ♀, pinned with type.

The only regional member of the genus *Nipponomyia* Alexander that has the pattern of the costal cell of the wing approximately as in the present fly is the otherwise quite distinct *Nipponomyia khasiana* Alexander. This is readily told by the small size, open cell *M*₂ of the wings, and the very different male hypopygium. The four previously described regional members of the genus have been figured in an earlier paper by the writer (Procs. R. Ent. Soc. London [B] 36: 61—68, figs. 6—9; 1967).

I take unusual pleasure in dedicating this interesting fly to Dr. Mannheims. It has been my further privilege to have named three other species of Tipulidae for him in earlier years, these being *Tipula (Acutipula) mannheimsiana*, from Assam, India (1953), *Austrolimnophila (Austrolimnophila) mannheimsi*, from Peru (1960), and *Phyllolabis mannheimsi*, from Kumaon, India (1961).



Wing venation and male hypopygium.

Figs. 1, 4. *Nipponomyia mannhemsiana* sp. n.; 2, 5. *Pedicia (Tricyphona) kehama* sp. n.; 3, 6. *Dicranota (Raphidolabis) separata* sp. n. (Symbols: b, basistyle; d, dististyle; g, gonapophysis; i, interbase; p, phallosome; t, ninth tergite)

Pedicia (Tricyphona) kehama sp. n.

Allied to *magra*; size relatively large (wing 7 mm or more); mesonotal praescutum brownish yellow, with four conspicuous brown stripes, posterior sclerites of notum paler brown; antennae with proximal three flagellar segments short and crowded; legs yellowed; wings tinged with pale brown, proximal two-thirds of cell C strongly darkened, stigma uniformly pale brown, whitened spot in cell R_2 conspicuous; male hypopygium with outer margin of dististyle convex.

Male. — Length about 5—5.5 mm; wing 7—7.5 mm; antenna about 1.1—1.2 mm.

Female. — Length about 6—6.5 mm; wing 7—7.5 mm.

Rostrum and palpi light brown. Antennae relatively short; scape yellow, the remainder brown, 15-segmented; pedicel large, proximal three flagellar segments short and crowded, transverse, partially fused but with the sutures evident; succeeding segments longer, the outer ones long-cylindrical, a little shorter than their verticils. Head small, light brownish gray.

Pronotum, including the pretergites, chiefly yellowed. Mesonotal praescutum brownish yellow with four conspicuous brown stripes, the intermediate pair separated by a narrow ground vitta, not attaining the suture behind, lateral stripes broader, crossing the suture to include the scutal lobes; posterior sclerites of notum yellowish brown to light brown. Pleura with propleura yellow, mesepisternum dark brown, posterior pleurites somewhat paler brown. Halteres with stem pale brown, base narrowly yellowed, knob brownish black. Legs with fore coxae and trochanters light yellow, remaining pairs dark brown; remainder of legs yellowed, outer tarsal segments slightly darker. Wings (fig. 2) tinged with pale brown, prearcular field and proximal two-thirds of cell C strongly darkened; stigma brownish yellow, encircled by slightly darker brown, center of cell R_2 conspicuously whitened; very narrow inconspicuous darker brown seams over cord, origin of R_s and outer end of cell 1st M_2 , extreme wing tip darkened; veins brown. Venation: Prearcular field very short; R_2 longer than R_{1+2} ; $r-m$ about opposite one-third R_{4+5} ; cell M_1 subequal to its petiole; $m-cu$ at or shortly beyond fork of M.

Basal abdominal tergites obscure yellow, patterned with dark brown, outer segments and hypopygium dark brown. Ovipositor very long, cerci yellow. Male hypopygium (fig. 5) with median area of posterior border of tergite, t , strongly produced into a semioval lobe, lateral arms slender, their tips frayed. Basistyle, b , with interbase, i , a pale flattened blade, narrowed at apex into a small point. Dististyle, d , partly connate with the basistyle, appearing as a stout lobe that narrows slightly outwardly, apex obliquely truncate. Phallosome with gonapophyses appearing as

flattened blades, apex of each with four or five strong erect reddish bristles.

Holotype, ♂, Bomdi La, Kameng, North East Frontier Agency, 8800 feet, July 11—15, 1961 (Schmid). Allotopotype, ♀, pinned with type. Paratopotypes, 3 ♂♂, 1 ♀, with the types.

The specific name, *kehama*, was suggested by Robert Southey's epic poem, "The curse of Kehama", 1810. The closest relative is *Pedicia* (*Tricyphona*) *magra* (Alexander), formerly placed in the subgenus *Rhaphidolabina* Alexander of *Dicranota* Zetterstedt. The larger size and coloration of the wings readily separates the present fly.

Dicranota (*Rhaphidolabis*) *separata* sp. n.

General coloration of body brown or brownish black, praescutum with three darker stripes; antennae short, 13-segmented; legs brownish black; wings subhyaline, vein *Sc* short; male hypopygium with posterior border of tergite bearing two widely separated lobules, the intervening central area slightly convex; basistyle with two slightly separated apical lobes, with groups of blackened spinoid setae; dististyle a broad pale blade, its basal lobe with abundant short yellow setulae.

Male. — Length about 3.8—4 mm; wing 4.8—5.2 mm; antenna about 0.5—0.6 mm.

Rostrum dark brown, palpi black. Antennae 13-segmented, short, black throughout; proximal flagellar segments long-oval, the outer ones shorter. Head dark brown.

Pronotum dark brown. Mesonotal praescutum with three nearly confluent dark brown stripes, the central one broad, sides paler brown; remainder of notum and the pleura almost uniformly dark brown to brownish black, metapleural region more yellowish brown. Halteres with stem pale, the large knobs darker. Legs with coxae and trochanters dark brown, remainder of legs brownish black. Wings (fig. 3) subhyaline to faintly tinted, stigma pale brown; veins light brown. Venation: *Sc* short, *Sc*₁ ending about opposite one-third the length of the strongly arcuated *Rs*; *R*₁₊₂ shorter than *R*₂; *R*₂₊₃₊₄ nearly three times the basal section of *R*₅; *m-cu* at near one-third *M*₃₊₄.

Abdomen brownish black, hypopygium slightly paler. Male hypopygium (fig. 6) with the tergite, *t*, distinctive, posterior border with slender lateral arms, the broad intervening space with two widely separated lobules, each provided with a few weak setae, the central space slightly convex. Basistyle, *b*, with two slightly separated apical lobes, each with blackened spinoid setae, together with a more basal group of somewhat longer setae; interbase, *i*, very long, curved, apex truncate. Dististyle, *d*,

including an outer lobe with abundant short yellow setulae and a broad pale outer blade with sparse longer setae.

Holotype, ♂, Lifakpo, Kameng, North East Frontier Agency, 3100 feet, March 15, 1961 (Schmid). Paratopotypes, 5 ♂♂ on three pins.

Other regional species having unpatterned wings and short vein *Sc* include *Dicranota (Rhaphidolabis) brachyneura* Alexander, *D. (R.) khumyarae* Alexander, and *D. (R.) perproducta* Alexander, all differing from the present fly in hypopygial characters, the most evident being the arrangement of the lobules on the posterior border of the tergite.

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